Financing Renewable Energy through Household Adoption of Green Electricity Tariffs: A Diffusion Model of an Induced Environment Market

An ESRC Research Centre
CCP
CENTRE FOR COMPETITION POLICY

March 2011

Financing Renewable Energy

CCP Policy Briefing

BACKGROUND

- The emergence of modern environmentalism has been accompanied by a desire to reap commercial benefits from individuals' growing concern for the environment.
- Green electricity tariffs are product innovations whereby the electricity supply company guarantees that the quantity of electricity delivered to the end consumer is matched by an equivalent amount of renewable energy generation.
- However, large disparities have been observed between the proportion of households actually adopting green electricity tariffs and the proportion in willingness-to-pay surveys that claim they would (stated-willingness-to-adopt).

METHODOLOGY

- The authors conceptualise observed disparities by developing a model that links the willingness-to-pay literature with the established innovation diffusion literature.

KEY FINDINGS

- The model shows how increasing consumer environmental concern, driven by word-of-mouth and mass media communication channels, results in an increasing proportion of households with a stated-willingness-to-adopt.
- The presence of response bias and the free rider problem result in 'feasible adoption' being below stated-willingness-to-adopt.
- Feasible adoption is in turn differentiated from actual adoption by the extent of market imperfections, such as the supply side problems and regulatory failures often discussed in the empirical literature.

POLICY ISSUES

- The distinctions between stated-willingness-to-adopt, feasible adoption and actual adoption should help policy-makers conceptualise the difficulties experienced in green energy markets, thereby making it easier for them to assess the role that these markets can play in incentivising additional investments over time.
- The model highlights to policymakers that the potential of the market for green electricity tariffs may take time to reap and that the low penetration rates of today may reflect a conventional trajectory of a diffusion process.

W: www.uea.ac.uk/ccp
T: +44 (0)1603 593715
A: UEA, Norwich, NR4 7TJ

University of East Anglia
E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

An ESRC Research Centre

CCP

CENTRE FOR COMPETITION POLICY

March 2011

Financing Renewable Energy

CCP Policy Briefing

THE CCP

The ESRC Centre for Competition Policy (CCP), at the University of East Anglia, undertakes competition policy research, incorporating economic, legal, management and political science perspectives, that has real-world policy relevance without compromising academic rigour.

FOR MORE INFORMATION

The full working paper (11-3) and more information about CCP and its research is available from our website: www.uea.ac.uk/ccp

ABOUT THE AUTHORS

- Ivan Diaz-Rainey is a Lecturer in Environmental Finance in the Norwich Business School at the University of East Anglia.
- Dionisia Tzavara, Department of Economics, University of Peloponnese, Tropli, Greece

W: www.uea.ac.uk/ccp
T: +44 (0)1603 593715
A: UEA, Norwich, NR4 7TJ

University of East Anglia

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL